

10-4 Skills Practice

Inscribed Angles

In $\odot S$, $m\widehat{KL} = 80$, $m\widehat{LM} = 100$, and $m\widehat{MN} = 60$. Find the measure of each angle.

1. $m\angle 1$

50

2. $m\angle 2$

60

3. $m\angle 3$

30

4. $m\angle 4$

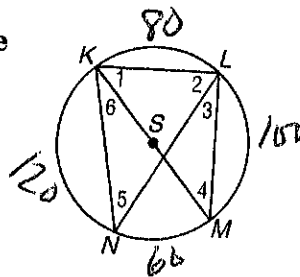
40

5. $m\angle 5$

40

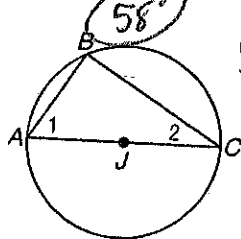
6. $m\angle 6$

30



ALGEBRA Find the measure of each numbered angle.

7. $m\angle 1 = 5x - 2$, $m\angle 2 = 2x + 8$



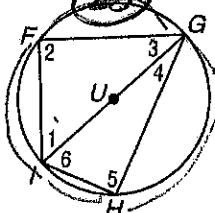
$$5x - 2 + 2x + 8 = 90$$

$$7x + 6$$

$$7x = 84$$

$$x = 12$$

8. $m\angle 1 = 5x$, $m\angle 3 = 3x + 10$,
 $m\angle 4 = x + 7$, $m\angle 6 = 3y + 11$



$$5x + 3x + 10 = 90$$

$$8x = 80$$

$$x = 10$$

$$4 + 7 + 3 + 11 = 56$$

$$4y = 72$$

$$y = 18$$

Quadrilateral $RSTU$ is inscribed in $\odot P$ such that $m\widehat{STU} = 220$ and $m\angle S = 95$. Find each measure.

9. $m\angle R$

110

10. $m\angle T$

70

11. $m\angle U$

85

12. $m\widehat{SRU}$

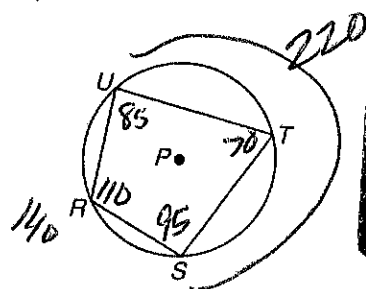
140

13. $m\widehat{RUT}$

190

14. $m\widehat{RST}$

170



Lesson 10-4

$$\begin{array}{r} 360 \\ - 220 \\ \hline 140 \end{array}$$

10-4 Practice

Inscribed Angles

In $\odot B$, $m\widehat{WX} = 104$, $m\widehat{WZ} = 88$, and $m\angle ZWY = 26$. Find the measure of each angle.

1. $m\angle 1$ 52

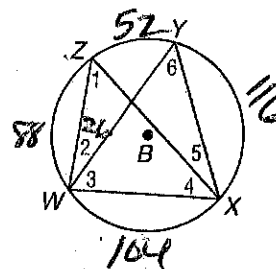
2. $m\angle 2$ 26

3. $m\angle 3$ 58 $\frac{1}{2} 116$

4. $m\angle 4$ 44

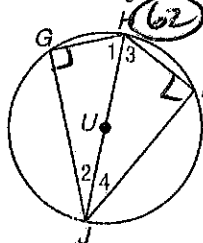
5. $m\angle 5$ 26

6. $m\angle 6$ 52



ALGEBRA Find the measure of each numbered angle.

7. $m\angle 1 = 5x + 2$, $m\angle 2 = 2x - 3$
 $m\angle 3 = 7y - 1$, $m\angle 4 = 2y + 10$

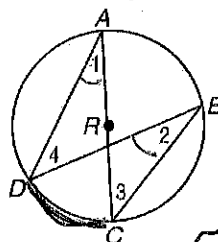


$$5x + 2 + 2x - 3 = 90$$

$$7x - 1 = 91$$

$$x = 13$$

8. $m\angle 1 = 4x - 7$, $m\angle 2 = 2x + 11$,
 $m\angle 3 = 5y - 14$, $m\angle 4 = 3y + 8$



$$4x - 7 = 2x + 11$$

$$2x = 18$$

$$x = 9$$

$$5y - 14 = 3y + 8$$

$$2y = 22$$

$$y = 11$$

$$7y - 1 + 2y + 10 = 90$$

$$9y + 9 = 81 \quad y = 9$$

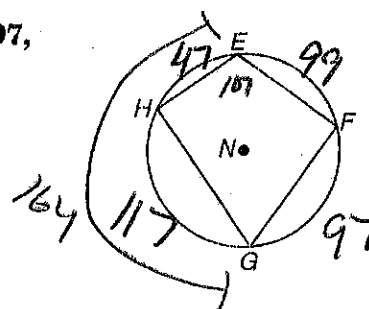
Quadrilateral $EFGH$ is inscribed in $\odot N$ such that $m\widehat{FG} = 97$, $m\widehat{GH} = 117$, and $m\widehat{EHG} = 164$. Find each measure.

9. $m\angle E$ 107 $\frac{1}{2} 214$

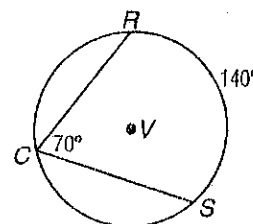
10. $m\angle F$ 82

11. $m\angle G$ 73

12. $m\angle H$ 98



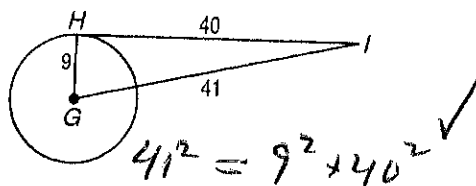
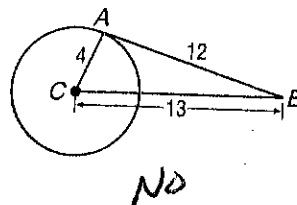
PROBABILITY In $\odot V$, point C is randomly located so that it does not coincide with points R or S . If $m\widehat{RS} = 140$, what is the probability that $m\angle RCS = 70^\circ$?



10-5 Skills Practice

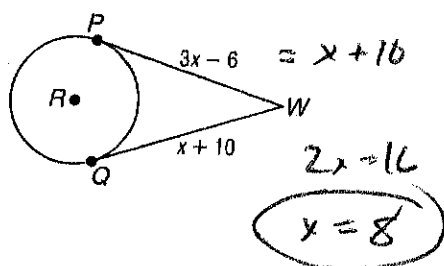
Tangents

Determine whether each segment is tangent to the given circle.

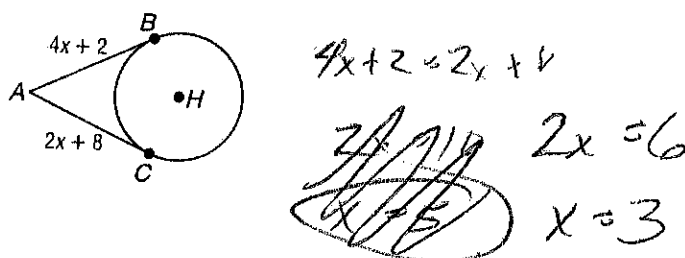
1. \overline{HI} 2. \overline{AB} 

Find x . Assume that segments that appear to be tangent are tangent.

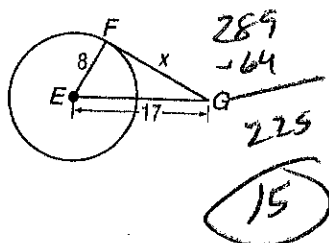
3.



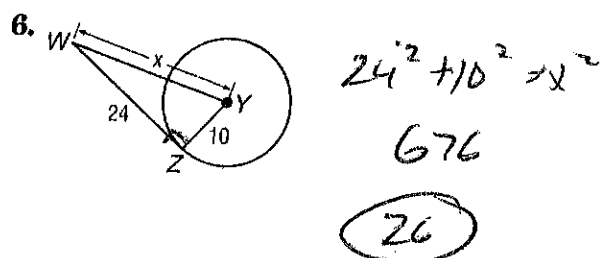
4.



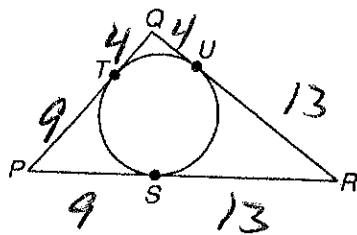
5.



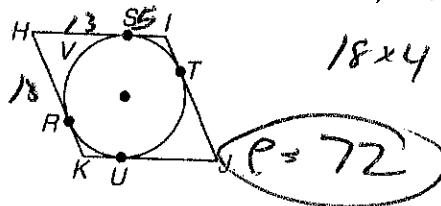
6.



Find the perimeter of each polygon for the given information. Assume that segments that appear to be tangent are tangent.

7. $QT = 4$, $PT = 9$, $SR = 13$ 

$$P = 18 + 8 + 26 = 52$$

8. $HIJK$ is a rhombus, $SI = 5$, $HR = 13$ 

$$18 \times 4$$

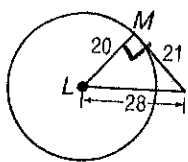
$$P = 72$$

10-5 Practice

Tangents

Determine whether each segment is tangent to the given circle.

1. \overline{MP}



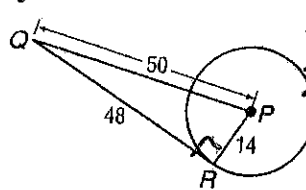
$$28^2 \stackrel{?}{=} 20^2 + 21^2$$

$$784 \quad 400 + 441$$

$$784 \neq 841$$

NO

2. \overline{QR}



$$50^2 \stackrel{?}{=} 48^2 + 14^2$$

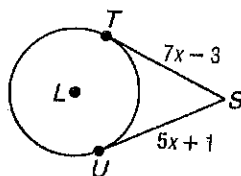
$$2500 \quad 2304 + 196$$

$$2500 = 2500$$

Yes

Find x . Assume that segments that appear to be tangent are tangent.

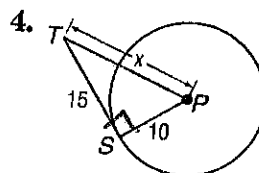
3.



$$7x - 3 = 5x + 1$$

$$2x = 4$$

$$x = 2$$



$$15^2 + 10^2 = x^2$$

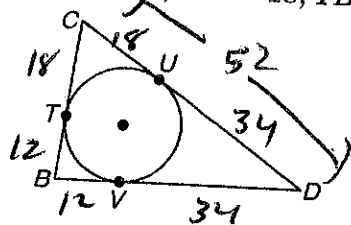
$$325 = x^2$$

$$x = \sqrt{325}$$

$$x = 5\sqrt{13}$$

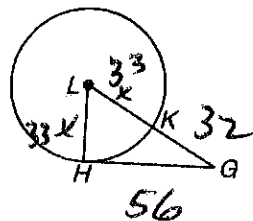
Find the perimeter of each polygon for the given information. Assume that segments that appear to be tangent are tangent.

5. $CD = 52$, $CU = 18$, $TB = 12$



$$24 + 36 + 68 = 128 = P$$

6. $KG = 32$, $HG = 56$



$$x^2 + 56^2 = (x + 32)^2$$

$$x^2 + 3136 = x^2 + 64x + 1024$$

$$2112 = 64x$$

$$33 = x$$

$$66 + 32 + 56 = 154 = P$$

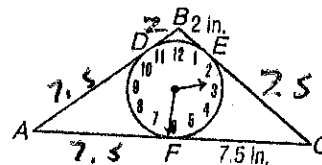
CLOCKS For Exercises 7 and 8, use the following information.

The design shown in the figure is that of a circular clock face inscribed in a triangular base. AF and FC are equal.

7. Find AB .

$$9.5 \text{ in}$$

8. Find the perimeter of the clock.



$$2.5 \times 4 + 4$$

$$34 \text{ in}$$